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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,605	05/24/2001	Terry L. Gilton	MICRON.091DV1	4627

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EXAMINER

MACARTHUR, SYLVIA

ART UNIT	PAPER NUMBER
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1763

9

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/864,605

Applicant(s)

GILTON ET AL.

Examiner

Sylvia R MacArthur

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/7/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1763

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 26-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munson et al (USP 5,783,938) in view of Sakata et al (USP 6,265,717).

Regarding claims 26, 34, 41, and 48: Munson teaches an apparatus for the quantitative measurement of the corrosivity effect of residues on the surface of electronic circuit assemblies. Fig. 1. illustrates a retaining ring 15 (outer/first tube) , an inlet tube (inner/second tube) 14 that dispenses fluid to the electronic circuit assembly (substrate), and an inlet tube that is surrounded by fluid transfer line (transfer tubing) 27 connected to pump 28.

Munson teaches the use of a pump, but fails to teach specifically a peristaltic pump.

Sakata teaches samplings being transported into a nebulizer 121 using a peristaltic pump 111.

The motivation to use a peristaltic pump is used for its cleanliness. This type of pump prevents or minimizes contamination due to fluid transfer. Merriam Webster's Collegiate Dictionary denotes that this pump operates on the premise that fluid is forced along waves of contraction produced mechanically on flexible tubing.

Thus, it would have been obvious at the time of the claimed invention to modify the system of Munson to include the peristaltic pump of Sakata.

Art Unit: 1763

Regarding claim 27: Fig. 1 illustrates that the retaining ring 15 (first tube) surrounds the inlet tube 14 (second tube).

Regarding claims 28 and 43: The inlet tube of Munson is inherently capable of dispensing an etchant.

Regarding claim 29: Fig. 1 illustrates that the first tube is connected to transfer tubing.

Regarding claims 30, 39, and 47: Col. 5 lines 1-5 discuss that the solution is aspirated on and off (nebulizer is inherent in this teaching).

Regarding claim 32: The fluid transfer line 27 provides the residue-containing extraction fluid to test cell 21 (analyzer). A timer (not shown) is used to measure the time to the migration event.

Regarding claims 35 and 44: Fig. 1 illustrates that the first tube is configured to isolate portions connected to the transfer tubing.

Regarding claims 36 and 45: Col. 5 lines 53-57 notes that the (flexible) tubing use in the apparatus is Tygon[®] such that contamination and cell wall degradation is minimized or eliminated.

Regarding claims 37 and 51: Col. 6 lines 32-45 lists various analyzers including a GC mass spectrometer (the presence of a nebulizer is confirmed with this teaching as GC-mass spectrometer used vaporized samples).

Note, Merriam Webster's Collegiate Dictionary denotes that gas chromatography is chromatography in which a sample mixture is vaporized and injected into a carrier gas moving

Art Unit: 1763

through a column containing a stationary phase composed of a liquid or particulate solid and is separated into component compounds according to their affinity for the stationary phase.

Regarding claims 31 and 38: Munson fails to teach the use of inductively coupled plasma mass (emissions) spectrometer.

Sakata teaches an inductively coupled plasma mass spectrometer and method.

Regarding claim 33: The amount of impurity at different depths is inherently measured by an inductively coupled plasma (ICP) mass spectrometer as this is the basis of the ICP mass spectrometer note that the examples were analyzed at specific depths.

The motivation to use an inductively coupled mass spectrometer is that it offers excellent sensitivity and can determine the elemental concentrations of a sample at the part-per-trillion (ppt) level, see col. 1 lines 15-20.

Thus, it would have been obvious for one to analyze the sample of Munson with the inductively coupled plasma mass (emissions) spectrometer of Sakata.

Response to Arguments

3. Applicant's arguments with respect to claims 26-52 have been considered but moot in view of new grounds of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R MacArthur whose telephone number is 703-306-5690. The examiner can normally be reached on M-F during the core hours of 8 a.m. and 2 p.m.

Art Unit: 1763

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Mills can be reached on 703-308-1633. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9630.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Sylvia R MacArthur
Patent Examiner
Art Unit 1763


July 18, 2003